

**CHAOTIC MIXING METHOD AND STRUCTURED MATERIALS  
FORMED THEREFROM**

**ABSTRACT OF THE DISCLOSURE**

A method for the production of a multiple phase composite material, wherein the composite material includes a major phase component and at least one minor phase component. The major and

5 minor phase components are arranged in a desired predefined morphological structure in which the major phase component and the minor phase components have predefined size and shape characteristics. The method involves supplying the major phase component to a chaotic mixer (10) in a controlled manner and supplying

10 the minor phase components to the chaotic mixer (10) in a controlled manner. Within the chaotic mixer (10) the major phase component and minor phase components undergo mixing according to controlled parameters to controllably and progressively develop predefined desired morphologies. Resulting structures are also provided.

15